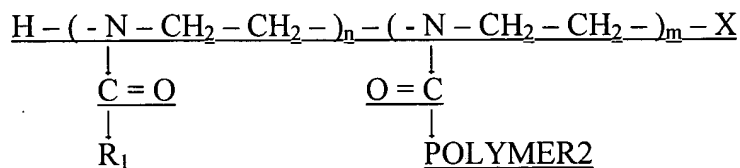## Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. Canceled.

2. Canceled.

3. (currently amended) A polymeric material having the structure

$$H-(\,-\,N-CH_2-CH_2-\,)_n-(\,-\,N-CH_2-CH_2-\,)_m-X$$

with $C=O$ bearing R_1 on the first repeat unit and $O=C$ bearing POLYMER2 on the second repeat unit,

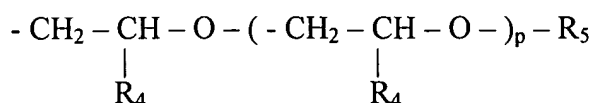wherein R_1 is selected from the group consisting of hydrogen, methyl, ethyl, and propyl, X is selected from the group consisting of acetate, p-tosylate, halide, sulfate, triflate, and mixtures thereof, and POLYMER2 is a water-insoluble polymeric material having a number average molecular weight in excess of 5,000, wherein POLYMER2 has the structure
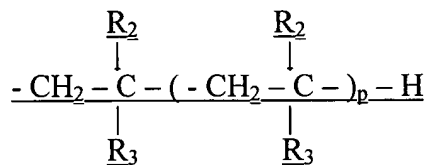
$$-CH_2-\underset{R_3}{\overset{R_2}{C}}-(\,-\,CH_2-\underset{R_3}{\overset{R_2}{C}}-\,)_p-H$$

wherein R_2 is selected from the group consisting of hydrogen, methyl, and mixtures thereof, and R_3 is selected from the group consisting of hydrogen, methyl, ethenyl, isopropenyl, carbomethoxy, phenyl, and mixtures thereof,

~~3. (original) The composition of claim 2,~~ wherein n is between about 50 to about 10,000, m is adjusted such that m/(n + m) is between about 0.0001 to about 0.20, and p is between about 60 to about 1250.

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4. (withdrawn) The composition of claim 1, wherein POLYMER2 has the structure

$$- CH_2 - CH - O - (- CH_2 - CH - O -)_p - R_5$$
$$\quad\quad\quad | \quad\quad\quad\quad\quad\quad\quad |$$
$$\quad\quad\quad R_4 \quad\quad\quad\quad\quad\quad\quad R_4$$

wherein R_4 is selected from the group consisting of hydrogen, methyl, and mixtures thereof, and R_5 is hydrogen or alkyl.

5. (withdrawn) The composition of claim 4, wherein n is between about 50 to about 10,000, m is adjusted such that $m/(n + m)$ is between about 0.0001 to about 0.20, p is between about 60 to about 1250.
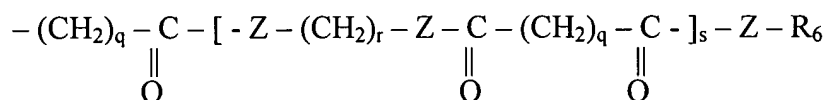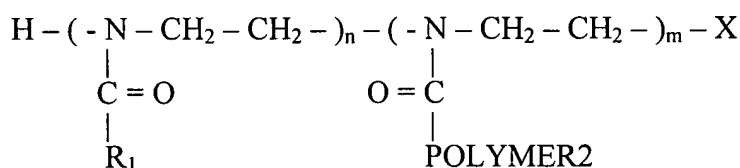
6. (withdrawn) The composition of claim 1, wherein POLYMER 2 has the structure

$$- (CH_2)_q - C - [- Z - (CH_2)_r - Z - C - (CH_2)_q - C -]_s - Z - R_6$$
$$\quad\quad\quad\quad \| \quad\quad\quad\quad\quad\quad\quad\quad \| \quad\quad\quad\quad \|$$
$$\quad\quad\quad\quad O \quad\quad\quad\quad\quad\quad\quad\quad O \quad\quad\quad\quad O$$

wherein Z is selected from the group consisting of O, NH, and mixtures thereof, and R_6 is selected from the group consisting of methyl, ethyl, propyl, and butyl.

7. (withdrawn) The composition of claim 6, wherein n is between about 50 to about 10,000, m is adjusted such that $m/(n + m)$ is between about 0.0001 to about 0.20, q is between 4 to about 12, r is between 4 to about 12, s is between about 25 to about 450

8. (withdrawn) A method to form a polymeric composition having the structure

$$H - (- N - CH_2 - CH_2 -)_n - (- N - CH_2 - CH_2 -)_m - X$$
$$\quad\quad\quad | \quad\quad\quad\quad\quad\quad\quad\quad\quad |$$
$$\quad\quad\quad C = O \quad\quad\quad\quad\quad\quad O = C$$
$$\quad\quad\quad | \quad\quad\quad\quad\quad\quad\quad\quad\quad |$$
$$\quad\quad\quad R_1 \quad\quad\quad\quad\quad\quad\quad POLYMER2$$

wherein R_1 is selected from the group consisting of hydrogen, methyl, ethyl, and propyl, X is selected from the group consisting of acetate, p-tosylate, halide, sulfate, triflate, and mixtures thereof, and POLYMER2 is a non-water soluble polymeric material having a number average molecular weight of 5,000 or greater; comprising the steps of:

supplying a first monomer having the structure

R1
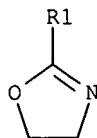
wherein R1 is selected from the group consisting of hydrogen, methyl, ethyl, and propyl;

supplying a second monomer having the structure
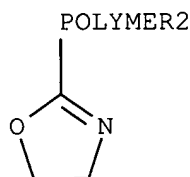
POLYMER2

wherein POLYMER2 is a non-water soluble polymeric material having a number average molecular weight of 5,000 or greater;

mixing said second monomer with said first monomer;

adding a cationic polymerization catalyst R'X to said monomer mixture to form a reaction mixture, wherein X is selected from the group consisting of acetate, p-tosylate, halide, sulfate, triflate, and mixtures thereof, and wherein R' is selected from the group consisting of hydrogen, alkyl, or aralkyl;

stirring said reaction mixture; and

heating said reaction mixture at a temperature of between about 7 $^{\circ}$C to about 180 $^{\circ}$C to form said polymeric composition.

9. (withdrawn) The method of claim 8, wherein said heating step is performed in a solvent.

10. (withdrawn) The method of claim 9, wherein said solvent is selected from the group consisting of orthodichlorobenzene, ethyl benzene, cumene, xylene, decane, 2-ethyl hexyl acetate, naphthalene, octane, and mixtures thereof.
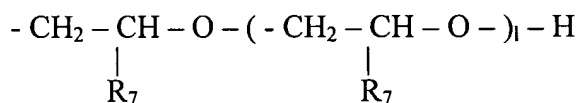
11. (withdrawn) The method of claim 8, wherein POLYMER2 has the structure
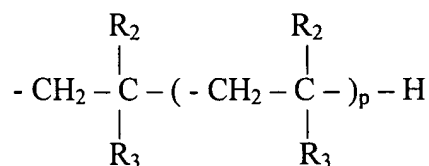
$$- CH_2 - \underset{\underset{R_3}{|}}{\overset{\overset{R_2}{|}}{C}} - (- CH_2 - \underset{\underset{R_3}{|}}{\overset{\overset{R_2}{|}}{C}} -)_p - H$$

wherein R_2 is selected from the group consisting of hydrogen, methyl, and mixtures thereof, and R_3 is selected from the group consisting of hydrogen, methyl, carbomethoxy, ethenyl, isopropenyl, phenyl, and mixtures thereof.

12. (withdrawn) The method of claim 11, wherein n is between about 50 to about 10,000, m is adjusted such that $m/(n + m)$ is between about 0.0001 to about 0.20, and p is between about 60 to about 1250.

13. (withdrawn) The method of claim 8, wherein POLYMER2 has the structure

$$- CH_2 - \underset{\underset{R_7}{|}}{CH} - O - (- CH_2 - \underset{\underset{R_7}{|}}{CH} - O -)_l - H$$

wherein R_7 is selected from the group consisting of hydrogen, methyl, and mixtures thereof

14. (withdrawn) The method of claim 13, wherein n is between about 50 to about 10,000, m is adjusted such that $m/(n + m)$ is between about 0.0001 to about 0.20, l is between about 60 to about 1250.
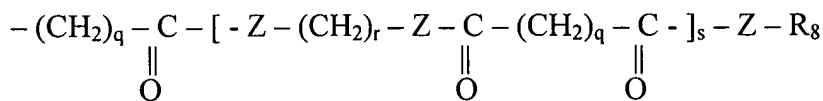
15. (withdrawn) The method of claim 8, wherein POLYMER2 has the structure

$$- (CH_2)_q - \underset{\underset{O}{\|}}{C} - [- Z - (CH_2)_r - Z - \underset{\underset{O}{\|}}{C} - (CH_2)_q - \underset{\underset{O}{\|}}{C} -]_s - Z - R_8$$
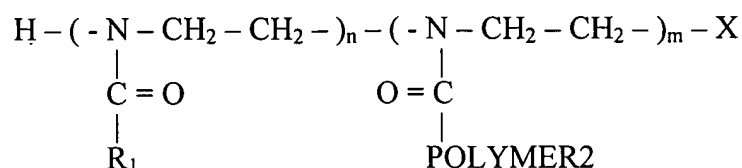
wherein Z is selected from the group consisting of O, NH, and mixtures thereof, and R_8 is selected from the group consisting of methyl, ethyl, propyl, and butyl.

16. (withdrawn) The method of claim 15, wherein n is between about 50 to about

10,000, m is adjusted such that $m/(n + m)$ is between about 0.0001 to about 0.20, q is between 4 to about 12, r is between 4 to about 12, s is between about 25 to about 450.

17. (withdrawn) A method to form a polymeric composition having the structure

$$H - (- N - CH_2 - CH_2 -)_n - (- N - CH_2 - CH_2 -)_m - X$$
$$\overset{|}{C} = O \qquad\qquad O = \overset{|}{C}$$
$$\overset{|}{R_1} \qquad\qquad\qquad POLYMER2$$

wherein R_1 is selected from the group consisting of hydrogen, methyl, ethyl, and propyl, X is selected from the group consisting of acetate, p-tosylate, halide, sulfate, triflate, and mixtures thereof, and POLYMER2 is a water-insoluble polymeric material having a number average molecular weight of 5,000 or greater; comprising the steps of:

supplying a first polymer having the structure

$$H - (- N - CH_2 - CH_2 -)_{n+m} - X$$
$$\overset{|}{C} = O$$
$$\overset{|}{R_1}$$
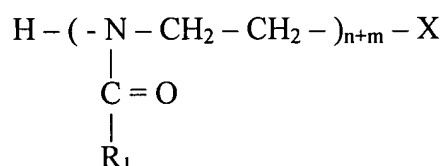
wherein R_1 is selected from the group consisting of hydrogen, methyl, ethyl, and propyl, and X is selected from the group consisting of acetate, p-tosylate, halide, sulfate, triflate, and mixtures thereof;
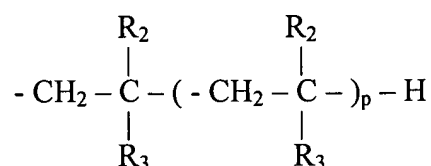
supplying a second polymer having the structure

$$\overset{O}{\overset{\|}{Y - C - POLYMER2}}$$

wherein POLYMER2 is a non water soluble polymeric material having a number average molecular weight of 5,000 or greater, and Y is selected from the group consisting of OH, Cl, O^- Na^+, O^-K^+, and O^-Li^+;

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mixing said second polymer with said first polymer to form a reaction mixture;

stirring said reaction mixture; and

heating said reaction mixture while removing R_1-COOH as it forms, to form said polymeric composition.
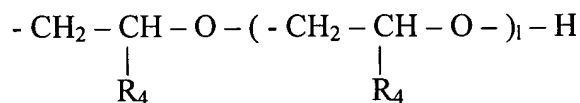
18. (withdrawn) The method of claim 17, wherein POLYMER2 has the structure

$$- CH_2 - \overset{\overset{\displaystyle R_2}{|}}{\underset{\underset{\displaystyle R_3}{|}}{C}} - (- CH_2 - \overset{\overset{\displaystyle R_2}{|}}{\underset{\underset{\displaystyle R_3}{|}}{C}} -)_p - H$$

wherein R_2 is selected from the group consisting of hydrogen, methyl, and mixtures thereof, and R_3 is selected from the group consisting of hydrogen, methyl, ethenyl, isopropenyl, carbomethoxy, phenyl, and mixtures thereof.

19. (withdrawn) The method of claim 18, wherein n is between about 50 to about 10,000, m is adjusted such that m/(n + m) is between about 0.0001 to about 0.20, and p is between about 60 to about 1250.

20. (withdrawn) The method of claim 17, wherein POLYMER2 has the structure

$$- CH_2 - \overset{\overset{\displaystyle }{}}{\underset{\underset{\displaystyle R_4}{|}}{CH}} - O - (- CH_2 - \overset{\overset{\displaystyle }{}}{\underset{\underset{\displaystyle R_4}{|}}{CH}} - O -)_l - H$$

wherein R_4 is selected from the group consisting of hydrogen, methyl, and mixtures thereof.

21. (withdrawn) The method of claim 20, wherein n is between about 50 to about 10,000, m is adjusted such that m/(n + m) is between about 0.0001 to about 0.20, l is between about 60 to about 1250.
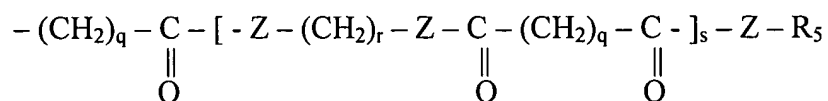
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22. (withdrawn) The method of claim 17, wherein POLYMER2 has the structure

$$- (CH_2)_q - \overset{\overset{\displaystyle O}{\|}}{C} - [\text{ - } Z - (CH_2)_r - Z - \overset{\overset{\displaystyle O}{\|}}{C} - (CH_2)_q - \overset{\overset{\displaystyle O}{\|}}{C} \text{ - }]_s - Z - R_5$$

wherein Z is selected from the group consisting of O, NH, and mixtures thereof, and R_5 is selected from the group consisting of methyl, ethyl, propyl, and butyl.

23. (withdrawn) The method of claim 22, wherein n is between about 50 to about 10,000, m is adjusted such that m/(n + m) is between about 0.0001 to about 0.20, q is between 4 to about 12, r is between 4 to about 12, s is between about 25 to about 450.